

APPENDIX C

Sensitive Biological Resources Tables

APPENDIX C SENSITIVE BIOLOGICAL RESOURCES TABLES

Table C-1 Sensitive Natural Communities Reported or Potentially Occurring within Carlsbad and CMWD Service Area

Community	Global Rank ⁽¹⁾	State Rank ⁽²⁾	MHCP Habitat Group ⁽³⁾	Mitigation Ratio ⁽⁴⁾
Non-native grassland	G4	S4	E	0.5:1
Valley needlegrass grassland	G1	S3.1	B	3:1
Diegan coastal sage scrub	G3	S3.1	C	2:1
Diegan coastal sage – chaparral scrub	G3	S3.2	C	2:1
Chamise chaparral	G4	S4	D	1:1
Scrub oak chaparral	G3	S3.3	D	1:1
Southern maritime chaparral	G1	S1.1	B	3:1
Southern mixed chaparral	G4	S4	D	1:1
Coast live oak woodland	G4	S4	B	3:1
Southern coastal live oak riparian forest	G3	S4	A	3:1 (No Net Loss)
Southern riparian forest	G4	S4		
Southern riparian scrub	G3	S3.2		
Coastal and valley freshwater marsh	G3	S2.1		
San Diego mesa claypan vernal pool	G2	S2.1	A	5:1

(1) **Global Rank**—The global rank is a reflection of the overall status of an element throughout its global range. **G1 = Critically Imperiled**—At very high risk of extinction due to extreme rarity, very steep declines, or other factors. Less than 6 viable element occurrences or less than 1,000 individuals or less than 2,000 acres. **G2 = Imperiled**—At high risk of extinction due to very restricted range, very few populations, steep declines, or other factors. Estimated 6-20 viable occurrences or 1,000-3,000 individuals or 2,000-10,000 acres. **G3 = Vulnerable**—At moderate risk of extinction due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors. Estimated 21-80 occurrences or 3,000-10,000 individuals or 10,000-50,000 acres. **G4 = Apparently Secure**—Uncommon but not rare; some cause for long-term concern due to declines or other factors. This rank is clearly lower than G3 but factors exist to cause some concern; i.e., there is some threat, or somewhat narrow habitat.

(2) **State Rank**—The state rank refer to the imperilment status only within California's State boundaries. **S1 = Critically Imperiled**—Critically imperiled in the state because of extreme rarity or because of some factor(s) such as very steep declines making it especially vulnerable to extirpation from the state/province. Less than 6 occurrences or less than 1,000 individuals or less than 2,000 acres. **S1.1** = very threatened; **S1.2** = threatened; **S1.3** = no current threats known. **S2 = Imperiled**—Imperiled in the state because of rarity due to very restricted range, very few populations, steep declines, or other factors making it very vulnerable to extirpation from the nation or state/province. Estimated 6-20 occurrences or 1,000-3,000 individuals or 2,000-10,000 acres. **S2.1** = very threatened; **S2.2** = threatened; **S2.3** = no current threats known. **S3 = Vulnerable**—Vulnerable in the state due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors making it vulnerable to extirpation. Estimated 21-80 occurrences or 3,000-10,000 individuals or 10,000 -50,000 acres. **S3.1** = very threatened; **S3.2** = threatened; **S3.3** = no current threats known; **S4 = Apparently Secure**—Uncommon but not rare; some cause for long-term concern due to declines or other factors.

(3) **MHCP Rank**—Habitat types located within the planning area of the MHCP have been assigned to Groups A – F based on the sensitivity and range of habitat within the planning area boundaries. Generally, Group A habitats are the most sensitive and Group F habitats are the least sensitive.

(4) Mitigation ratios may increase or decrease depending on the resources present and where the impact and mitigation is proposed, as approved by the regulatory agencies and/or local jurisdiction in which the impact and mitigation occurs.

Source: CNDDB 2010; CNPS 2010; City of Carlsbad 2004; AMEC et. al. 2003; Ogden et. al. 1998

**Table C-2 Special Status Plant Species Reported or Potentially Occurring
within Carlsbad and CMWD Service Area**

Common Name	Scientific Name	Federal Status ⁽¹⁾	State Status ⁽²⁾	CNPS List ⁽³⁾	General Habitat Associations
NON-VASCULAR					
bottle liverwort	<i>Sphaerocarpos drewei</i>			1B.1	Chaparral, coastal scrub.
California screw moss	<i>Tortula californica</i>			1B.2	Chenopod scrub, valley and foothill grassland.
Campbell's liverwort	<i>Geothallus tuberosus</i>			1B.1	Coastal scrub, vernal pools.
coastal triquetrella	<i>Triquetrella californica</i>			1B.2	Coastal bluff scrub, coastal scrub.
Shevock's copper moss	<i>Schizymenium shevockii</i>			1B.2	Cismontane woodland.
ashy spike-moss	<i>Selaginella cinerascens</i>			4.2	Coastal sage scrub, chaparral.
Fern					
California adder's-tongue fern	<i>Ophioglossum lusitanicum</i> <i>ssp. californicum</i>			4.2	Chaparral, grasslands, vernal pools.
Angiosperms - Monocotyledons					
California Orcutt grass	<i>Orcuttia californica</i>	FE	SE	1B.1	Vernal pools.
Orcutt's brodiaea	<i>Brodiaea orcuttii</i>			1B.1	Vernal pools, valley and foothill grassland, closed-cone coniferous forest, cismontane woodland, chaparral, meadows.
San Diego goldenstar	<i>Muilla clevelandii</i>			1B.1	Chaparral, coastal scrub, valley and foothill grassland, vernal pools.
Shaw's agave	<i>Agave shawii</i>			2.1	Coastal bluff scrub, coastal scrub.
thread-leaved brodiaea	<i>Brodiaea filifolia</i>	FT	SE	1B.1	Cismontane woodland, coastal scrub, playas, valley and foothill grassland, vernal pools.
Angiosperms - Dicotyledons					
Blochman's dudleya	<i>Dudleya blochmaniae</i> ssp. <i>blochmaniae</i>			1B.1	Coastal scrub, coastal bluff scrub, valley and foothill grassland.
California adolphia	<i>Adolphia californica</i>			2.1	Chaparral, coastal sage scrub, valley and foothill grassland.
chaparral sand-verbena	<i>Abronia villosa</i> var. <i>aurita</i>			1B.1	Chaparral, coastal scrub.
cliff spurge	<i>Euphorbia misera</i>			2.2	Coastal bluff scrub, coastal scrub.
Coulter's goldfields	<i>Lasthenia glabrata</i> ssp. <i>coulteri</i>			1B.1	Coastal salt marshes, playas, valley and foothill grassland, vernal pools.
Dean's milk-vetch	<i>Astragalus deanei</i>			1B.1	Chaparral, coastal scrub, riparian forest.
decumbent goldenbush	<i>Isocoma menziesii</i> var. <i>decumbens</i>			1B.2	Coastal scrub.
Del Mar manzanita	<i>Arctostaphylos glandulosa</i> ssp. <i>crassifolia</i>	FE		1B.1	Chaparral, closed-cone coniferous forest.
Del Mar Mesa sand aster	<i>Corethrogyne filaginifolia</i> var. <i>linifolia</i>			1B.1	Chaparral, coastal scrub.
dwarf burr (San Diego) ambrosia	<i>Ambrosia pumila</i>	FE		1B.1	Chaparral, coastal scrub, valley and foothill grassland.
Encinitas baccharis	<i>Baccharis vanessae</i>	FT	SE	1B.1	Chaparral.

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Common Name	Scientific Name	Federal Status⁽¹⁾	State Status⁽²⁾	CNPS List⁽³⁾	General Habitat Associations
Engelmann oak	<i>Quercus engelmannii</i>			4.2	Chaparral, coast live oak woodland, grassland.
Gambel's water cress	<i>Nasturtium gambelii</i>	FE	ST	1B.1	Marshes and swamps.
little mouseltail	<i>Myosurus minimus</i> ssp. <i>apus</i>			3.1	Vernal pools.
many-stemmed dudleya	<i>Dudleya multicaulis</i>			1B.2	Chaparral, coastal scrub, valley and foothill grassland.
Moran's navarretia	<i>Navarretia fossalis</i>	FT		1B.1	Vernal pools, chenopod scrub, marshes and swamps, playas.
mud nama	<i>Nama stenocarpum</i>			2.2	Marshes and swamps.
Nuttall's scrub oak	<i>Quercus dumosa</i>			1B.1	Closed-cone coniferous forest, chaparral, coastal scrub.
Orcutt's hazardia	<i>Hazardia orcuttii</i>	FC	ST	1B.1	Chaparral, coastal scrub.
Orcutt's linanthus	<i>Linanthus orcuttii</i>			1B.3	Chaparral.
Orcutt's spineflower	<i>Chorizanthe orcuttiana</i>	FE	SE	1B.1	Coastal scrub, chaparral, closed-cone coniferous forest.
Palmer's goldenbush	<i>Ericameria palmeri</i> ssp. <i>palmeri</i>			2.2	Coastal scrub, chaparral.
Parry's tetracoccus	<i>Tetracoccus dioicus</i>			1B.2	Chaparral, coastal scrub.
prostrate vernal pool navarretia	<i>Navarretia prostrata</i>			1B.1	Coastal scrub, valley and foothill grassland, vernal pools.
Rainbow manzanita	<i>Arctostaphylos rainbowensis</i>			1B.1	Chaparral.
Robinson's pepper-grass	<i>Lepidium virginicum</i> var. <i>robinsonii</i>			1B.2	Chaparral, coastal scrub.
round-leaved filaree	<i>California macrophylla</i>			1B.1	Cismontane woodland, valley and foothill grassland.
San Diego barrel cactus	<i>Ferocactus viridescens</i>			2.1	Chaparral, Diegan coastal scrub, valley and foothill grassland.
San Diego bur-sage	<i>Ambrosia chenopodiifolia</i>			2.1	Coastal scrub mostly associated with maritime succulent scrub.
San Diego button-celery	<i>Eryngium aristulatum</i> var. <i>parishii</i>	FE	SE	1B.1	Vernal pools, coastal scrub, valley and foothill grassland.
San Diego marsh-elder	<i>Iva hayesiana</i>			2.2	Marshes and swamps, playas.
San Diego sagewort	<i>Artemisia palmeri</i>			4.2	Riparian, wetland, adjacent uplands.
San Diego thorn-mint	<i>Acanthomintha ilicifolia</i>	FT	SE	1B.1	Chaparral, coastal scrub, valley and foothill grassland, vernal pools.
smooth tarplant	<i>Centromadia pungens</i> ssp. <i>laevis</i>			1B.1	Valley and foothill grassland, chenopod scrub, meadows, playas, riparian woodland.
snake cholla	<i>Opuntia californica</i> var. <i>californica</i>			1B.1	Chaparral, coastal scrub.
southern tarplant	<i>Centromadia parryi</i> ssp. <i>australis</i>			1B.1	Marshes and swamps (margins), valley and foothill grassland.
Southwestern spiny rush	<i>Juncus acutus</i> var. <i>leopoldii</i>			4.2	Riparian, wetlands, vernal pools.

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Common Name	Scientific Name	Federal Status ⁽¹⁾	State Status ⁽²⁾	CNPS List ⁽³⁾	General Habitat Associations
summer holly	<i>Comarostaphylis diversifolia</i> ssp. <i>diversifolia</i>			1B.2	Chaparral.
variegated dudleya	<i>Dudleya variegata</i>			1B.2	Chaparral, coastal scrub, cismontane woodland, valley and foothill grassland.
wart-stemmed ceanothus	<i>Ceanothus verrucosus</i>			2.2	Chaparral.
Western dicondra	<i>Dichondra occidentalis</i>			4.2	Coastal sage scrub.
willowy monardella	<i>Monardella viminea</i>	FE	SE	1B.1	Coastal scrub/alluvial ephemeral washes with adjacent coastal scrub, chaparral, or sycamore woodland.

⁽¹⁾ **Federal Status** – FE = Federally Endangered; FT = Federally Threatened; FC = Candidate for federal listing; FD = Delisted

⁽²⁾ **State Status** – SE = State Endangered; ST = State Threatened

⁽³⁾ **CNPS** – 1A = Plants presumed extinct in California; 1B = Plants rare, threatened, or endangered in California and elsewhere; 2 = Plants rare, threatened, or endangered in California, but more common elsewhere; 3 = Plants in need of more information; 4 = Plants of limited distribution. **x.1** = Seriously endangered in California (>80% of occurrences threatened or high degree and immediacy of threat). **x.2** = Fairly endangered in California (20-80% of occurrences threatened). **x.3** = Not very endangered in California (<20% of occurrences threatened or no current threats known)

Source: CDFG 2010; CNPS 2010; Consortium 2010; City of Carlsbad 2004; AMEC et. al. 2003; Ogden et. al.1998

**Table C-3 Special Status Wildlife Species Reported or Potentially Occurring
within Carlsbad and CMWD Service Area**

Common Name	Scientific Name	Federal Status ⁽¹⁾	State Status ⁽²⁾	General Habitat Associations
INVERTEBRATES				
Crustaceans				
Riverside fairy shrimp	<i>Streptocephalus woottoni</i>	FE		Found in areas of tectonic swales/earth slump basins in grassland and coastal sage scrub habitats.
San Diego fairy shrimp	<i>Branchinecta sandiegonensis</i>	FE		Vernal pools.
Insects				
Hermes copper butterfly	<i>Lycaena hermes</i>			Found in southern mixed chaparral and coastal sage scrub at western edge of Laguna mountains.
Harbison's dun skipper	<i>Euphyes vestries harbisoni</i>			Riparian woodland, riparian scrub, oak woodland.
Monarch butterfly	<i>Danaus plexippus</i>			Roosts located in wind-protected tree groves, such as eucalyptus, Monterey pine, and cypress trees where nectar and water sources are available.
AMPHIBIANS				
Arroyo toad	<i>Bufo californicus</i>	FE	SSC	Semi-arid regions near washes, rivers, or intermittent streams, including valley-foothill and desert riparian areas and desert washes.
Coast Range newt	<i>Taricha torosa torosa</i>		SSC	Lives in terrestrial habitats and will migrate over 1 km to breed in ponds, reservoirs, coastal drainages, or slow moving streams.
Western spadefoot	<i>Spea hammondi</i>		SSC	Occurs primarily in ponds located in grassland habitats, but can be found in valley-foothill hardwood woodlands.
REPTILES				
Coast (San Diego) horned lizard	<i>Phrynosoma coronatum</i> (blainvillii population)		SSC	Inhabits coastal sage scrub and chaparral in arid and semi-arid climate conditions.
Coast patch-nosed snake	<i>Salvadora hexalepis virgulata</i>		SSC	Brushy or shrubby vegetation in coastal southern California.
Coastal western whiptail	<i>Aspidoscelis tigris stejnegeri</i>			Found in deserts and semiarid areas with sparse vegetation and open areas and in woodland and riparian areas.
Coronado skink	<i>Eumeces skiltonianus interparietalis</i>		SSC	Found in grassland, chaparral, pinyon-juniper and juniper sage woodland, and pine-oak and pine forests.
Northern red-diamond rattlesnake	<i>Crotalus ruber ruber</i>		SSC	Found in chaparral, woodland, grassland, and desert areas from coastal San Diego County to the eastern slopes of the mountains.
Orange-throated whiptail	<i>Aspidoscelis hyperythra</i>		SSC	Inhabits low-elevation coastal scrub, chaparral, and valley-foothill hardwood habitats.
Rosy boa	<i>Charina trivirgata</i>			Found in desert and chaparral habitats from the coast to the Mojave. Prefers moderate to dense vegetation and rocky cover.
San Diego ringneck snake	<i>Diadophis punctatus similis</i>			Found in open, fairly rocky areas and in moist areas near intermittent streams.

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Common Name	Scientific Name	Federal Status⁽¹⁾	State Status⁽²⁾	General Habitat Associations
Silvery legless lizard	<i>Anniella pulchra pulchra</i>		SSC	Occurs in sparsely vegetated areas of beach dunes, chaparral, pine-oak woodlands, desert scrub, sandy washes, and stream terraces with sycamores, cottonwoods, or oaks, where soil is moist.
Southwestern pond turtle	<i>Actinemys marmorata pallida</i>		SSC	Inhabits permanent or nearly permanent bodies of water in many habitat types below 6,000 feet.
Two-striped garter snake	<i>Thamnophis hammondi</i>		SSC	Found in or near permanent fresh water and often along streams with rocky beds and riparian growth.
BIRDS				
American peregrine falcon	<i>Falco peregrinus anatum</i>	FD	SE	Found near wetlands, lakes, rivers, or other water or on cliffs, banks, dunes, or mounds.
Bank swallow	<i>Riparia riparia</i>		ST	Nests primarily in riparian and other lowland habitats west of the desert.
Belding's savannah sparrow	<i>Passerculus sandwichensis beldingi</i>		SE	Inhabits coastal salt marshes.
Bell's sage sparrow	<i>Amphispiza belli belli</i>		WL	Nests in chaparral dominated by fairly dense stands of chamise. Found in coastal sage scrub in south of range.
Burrowing owl	<i>Athene cunicularia</i>		SSC	Open, dry annual, or perennial grasslands, deserts and scrublands characterized by low-growing vegetation.
California horned lark	<i>Eremophila alpestris actia</i>		WL	Short-grass prairie, "bald" hills, mountain meadows, open coastal plains, fallow grain fields, and alkali flats.
Coastal cactus wren	<i>Campylorhynchus brunneicapillus sandiegensis</i>		SSC	Coastal sage scrub with tall <i>Opuntia</i> cactus for nesting and roosting.
Coastal California gnatcatcher	<i>Poliptila californica californica</i>	FT	SSC	Low, coastal sage scrub in arid washes, on mesas, and on slopes.
Cooper's hawk	<i>Accipiter cooperii</i>		WL	Open, interrupted, or marginal type woodland. Nest sites mainly found in riparian growths of deciduous trees in canyon bottoms on river flood-plains.
Double-crested cormorant	<i>Phalacrocorax auritus</i>		WL	Found on coastal cliffs, offshore islands, and along lake margins in the interior of the State.
Ferruginous hawk	<i>Buteo regalis</i>		WL	Open grasslands, sagebrush flats, desert scrub, low foothills, and fringes of pinyon-juniper habitats.
Golden eagle	<i>Aquila chrysaetos</i>	FD	SE, SFP	Rolling foothills, mountain areas, sage-juniper flats, and desert.
Grasshopper sparrow	<i>Ammodramus savannarum</i>		SSC	Favors native grasslands with a mix of grasses, forbs, and scattered shrubs.
Large-billed savannah sparrow	<i>Passerculus sandwichensis rostratus</i>		SSC	Salt marsh.
Least Bell's vireo	<i>Vireo bellii pusillus</i>	FE	SE	Summer resident of southern California in low riparian in vicinity of water or in dry river bottoms; below 2000 ft.
Least bittern	<i>Ixobrychus exilis</i>		SSC	Found in marshlands and borders of ponds and reservoirs which provide ample cover.
Light-footed clapper rail	<i>Rallus longirostris levipes</i>	FE	SE	Sal marsh.

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Common Name	Scientific Name	Federal Status⁽¹⁾	State Status⁽²⁾	General Habitat Associations
Loggerhead shrike	<i>Lanius ludovicianus</i>		SSC	Broken woodlands, savannah, pinyon-juniper, joshua tree, and riparian woodlands, desert oasis', scrub and washes.
Long-eared owl	<i>Asio otus</i>		SSC	Riparian bottomlands with tall willows, cottonwoods, or coast live oaks adjacent to open land with ample prey.
Northern harrier	<i>Circus cyaneus</i>		SSC	Coastal salt and fresh-water marsh. Nest and forage in grasslands, from salt grass in desert sink to mountain marshes.
Osprey	<i>Pandion haliaetus</i>		WL	Ocean shore, bays, fresh-water lakes, and larger streams.
Prairie falcon	<i>Falco mexicanus</i>		WL	Inhabits dry, open terrain, either level or hilly.
Southern California rufous-crowned sparrow	<i>Aimophila ruficeps canescens</i>		WL	Found in coastal sage scrub and sparse mixed chaparral.
Southwestern willow flycatcher	<i>Empidonax traillii extimus</i>	FE	SE	Riparian woodlands.
Tricolored blackbird	<i>Agelaius tricolor</i>		SSC	Requires open water, protected nesting substrate, and foraging area with available insect prey.
Western snowy plover	<i>Charadrius alexandrinus nivosus</i>	FT	SSC	Sandy beaches, salt pond levees, and shores of large alkali lakes.
White-faced ibis	<i>Plegadis chihi</i>		WL	Shallow fresh-water marsh.
White-tailed kite	<i>Elanus leucurus</i>		SFP	Rolling foothills and valley margins with scattered oaks and river bottomlands or marshes next to deciduous woodland. Open grasslands, meadows, or marshes for foraging.
Yellow warbler	<i>Dendroica petechia brewsteri</i>		SSC	Prefers riparian plant associations such as willows, cottonwoods, aspens, sycamores, and alders for nesting and foraging. Also, found in montane shrubbery in open conifer forests.
Yellow-breasted chat	<i>Icteria virens</i>		SSC	Summer resident that inhabits riparian thickets of willow and other brushy tangles near watercourses.
MAMMALS				
American badger	<i>Taxidea taxus</i>		SSC	Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils.
Hoary bat	<i>Lasiurus cinereus</i>			Prefers open habitats or habitat mosaics, with access to trees for cover and open areas or habitat edges for feeding. Roosts in dense foliage of medium to large trees.
Northwestern San Diego pocket mouse	<i>Chaetodipus fallax fallax</i>		SSC	Found in coastal scrub, chaparral, grasslands, and sagebrush.
Pacific pocket mouse	<i>Perognathus longimembris pacificus</i>	FE	SSC	Found within 4 km of the coast on fine-grained sandy substrates in coastal sage scrub, coastal strand, and river alluvium.
Pallid bat	<i>Antrozous pallidus</i>		SSC	Found in deserts, grasslands, shrublands, woodlands, and forests. Most common in open, dry habitats with rocky areas for roosting.
San Diego black-tailed jackrabbit	<i>Lepus californicus bennettii</i>		SSC	Found in coastal sage scrub with intermediate canopy stages of shrub habitats and open shrub / herbaceous and tree / herbaceous edges.
San Diego desert woodrat	<i>Neotoma lepida intermedia</i>		SSC	Moderate to dense canopies of coastal scrub. Abundant in rock outcrops, rocky cliffs, and slopes.

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Townsend's big-eared bat	<i>Corynorhinus townsendii</i>		SSC	Found in moist coastal forest to semi-desert scrublands, near riparian areas and wetlands.
Western mastiff bat	<i>Eumops perotis californicus</i>		SSC	Found in many open and semi-arid to arid habitats, including conifer and deciduous woodlands, coastal scrub, grasslands, and chaparral.
Western red bat	<i>Lasiurus blossevillii</i>		SSC	Prefers riparian areas dominated by cottonwoods, oaks, sycamores, and walnuts.
Western small-footed myotis	<i>Myotis ciliolabrum</i>			Found in a wide range of habitats near water, including arid wooded, brushy uplands, and open stands in forests and woodlands. Seeks cover in caves, buildings, mines and crevices
Western yellow bat	<i>Lasiurus xanthinus</i>		SSC	Found in valley foothill riparian, desert riparian, desert washes, and palm oasis habitats.
Yuma myotis	<i>Myotis yumanensis</i>			Optimal habitats are open forests and woodlands with sources of water over which to feed.
Southern mule deer	<i>Odocoileus hemionus</i>			Variety of habitats over a broad range.

⁽¹⁾ **Federal Status** – **FE** = Federally Endangered; **FT** = Federally Threatened; **FC** = Candidate for federal listing; **FD** = Delisted

⁽²⁾ **State Status** – **SE** = State Endangered; **ST** = State Threatened; **SFP** = State Fully Protected; **SSC** = State Species of Special Concern; **WL** = State Watch List

Source: CDFG 2010; City of Carlsbad 2004; AMEC et. al. 2003; Ogden et. al. 1998